THE AMERICAN JOURNAL

...OF...

OPHTHALMOLOGY.

VOL. XVII. JUNE, 1900. NO. 6.

ORIGINAL ARTICLES.

REPORT OF A CASE OF RAILWAY TRAUMA OF THE EYE, WITH DETAILS OF THE CASE, INCLUDING SUIT BROUGHT BY THE PATIENT AGAINST THE RAILWAY COMPANY.*

By B. E. FRYER, M.D.,

KANSAS CITY, MO.

THE following case of alleged eye injury is reported from an interest based more on the medico-legal aspect than upon anything of scientific or clinical importance. It being known, however, that many of the members have official relations with important railway corporations, and as claims for injury to the eye are somewhat rare, it is probably not without interest to most of the members present.

I would preface here, before relating the case and the amazingly strange symptoms which were claimed by the patient as following the alleged injury, by stating that after some considerable experience in medical expert testimony I

*Read at the Fifth Annual Meeting of the Western Ophthalmologic and Oto-Laryngologic Association, St. Louis, Mo., April 5–7, 1900.

am convinced, in view of the fact that damage suits for claimed bodily injury of all kinds against the various railway and other corporations are multiplying hugely, that it should behoove corporations to have connected with their legal department a very competent medical man to whom all the papers in the case should be sent for examination, and that the whole medical side of the case should be studied by this medical expert, who should advise the counsel for the corporation, and the latter, when he tries the case, should have this medical man at his side at the time of hearing the case to give points and promptings to the counsel in reference to medical questions. I shall refer to this again.

The case I would relate is as follows: Mr. X. Y. Z., aged about 30 years, was bruised by the finger nail of a drunken man while on a passenger train as a passenger, about 7 P.M., in August, 1898. The affair occurred in this way: A drunken passenger was pushed or thrown by the conductor across the aisle of the car to the other side of the car where the plaintiff was sitting, and the latter claims that the finger nail of the drunken man struck the plaintiff's left temple about an inch posterior to the anterior orbital edge. Nothing more than a very slight scratch of the epidermis resulted and there is not now, nor has there ever been, any discoverable scar at the site of the alleged injury. The plaintiff continued to his journey's end, a few miles, and on arriving at his station got off the train, went to the post-office to get his mail, and then walked about a mile to his home. The next morning he consulted a physician. The eyeball was examined by this physician and nothing was discovered except a slight conjunctival congestion. The day but one following the injury a second physician saw the case, and from this time the plaintiff claims that severe supraorbital pains attacked him, which were also accompanied with nervous spells (whatever that may mean), and tremors began in the right arm, all of which have continued. There now began, the plaintiff claims, a running down of the general health, with loss of weight.

Three weeks after the alleged injury, the patient consulted a neurologist, who stated that there was freedom from all signs of nervous lesion or nervous symptoms, and so tes-

tified at the first trial of the case. All the symptoms save the tremors of the right arm were subjective; with even these there was no loss of vision, and not even the slightest deterioration of vision claimed. The main subjective symptom was the supraorbital pain and also the alleged depressed feeling.

The case was first heard in June, 1899. The plaintiff's attorney refusing a medical examination of his client, a medical commission was ordered by the court, consisting of five members, and four physicians with myself were appointed. After a most careful examination for every condition or symptom which might indicate any nervous trouble or lesion of any kind, four of the five medical men were satisfied that there was none, and so testified. Hypertrophy of the heart was found. Vision of both eyes was $^{20}/_{xx}$, and no sign of any trouble ever having existed in or about either eye could be discovered. The fundus was normal. There was no fracture of the bones of the orbit. The tremor of the arm disappeared when the plaintiff's attention was diverted from himself. All the reflexes were normal. Four out of the five medical men of the commission testified to the above. The testimony of the fifth was neither definite nor satisfactory, while his anatomical knowledge was not clear.

The jury in the first trial disagreed. The case was heard again in February, 1900. In the interval between the trials, the plaintiff claimed that two small pieces of bone were discharged from between the lids. The testimony at the second hearing was about the same as at the first trial, with this addition, however, that several medical gentlemen, among them myself, testified that the pieces of bone offered in testimony could not have from the orbit—that they were not portions of diseased bone in any event, and were not exfoliated bone, and, even if they were, they could not have come from the orbit, that they were entirely too thick to be from such a source, and very different in character from any of the bones of the orbit. The plaintiff's counsel refused an examination of the eye, it being obvious that a scar must exist at the site through which the bones were extruded. All these points were clearly testified to, and yet the jury gave a verdict for plaintiff in $1,500.

Such is the brief history of the case, unimportant, it is true, from a scientific standpoint, but as cases of damage suits for all kinds of injuries are, as I have stated, multiplying against all corporations, many of them as groundless as they are unjust, I have thought it worthy of report. My remedy, as I have previously stated, would be that the legal department of the various railway corporations should have attached to the law department an advisory medical consultant who should be in the court room at the time of hearing the case, especially to help in the cross-examination of the plaintiff and his witnesses, and also to show the jury the fallacy of statements made by the claimant's medical witnesses; that when testimony upon the alleged injury is being given, and when, especially, too the medical testimony is heard, this medical expert should sit near the corporation's counsel and give such medical promptings as may be required. This medical man should not, however, be put upon the witness stand, for obvious reasons.

Medical expert testimony has come to be considered largely a farcical matter, but would it be possible to have so much medical nonsense given off in the courts if medical men were behind the lawyers to check and correct the ridiculous replies so often made?

The lawyers for the company in the case I have related, are men of great ability, and they conducted their part of the hearing extremely well, and yet, it can not be expected that lawyers generally can know all the medical points of a case in the examination of witnesses, nor on the spur of the moment, unaided, catch at every *faux pas* or ridiculous answer given on some medical subjects, as a physician or surgeon would.

One point in giving medical expert testimony has always seemed to me unfair, especially so to the expert, and that is the way hypothetical questions are framed. For instance: "Presuming the plaintiff to have been perfectly well up to the time of the injury, and eliminating every other cause, would or would you not attribute the result claimed to have been caused by the injury?" Now, this form of question is one of a kind that is frequently put in courts, and it is unfair for two reasons:

1. That there is often grave doubt of the existence of any effect at all from the alleged injury, and

2. Even if there were an appreciable effect it would be utterly impossible to eliminate every other cause than the injury.

These hypothetical questions are misleading, too, to the jury, assuming as they do that a causative injury has been received, and this being a predominating idea in the question the jury readily engrafts any other evidence upon that which may not be a fact.

The finding in this case related was certainly not in accordance with the evidence.

DISCUSSION.

DR. W. SCHEPPEGRELL (New Orleans, La.)—While discussing this medico-legal question, it may not be uninteresting to relate to you the history of a case I reported some years ago before the French Society of Laryngology. It refers to a negro woman who had been suffering from some irritation of the ear and was advised by a woman, whom she subsequently found to be her enemy, to apply a piece of Cayenne pepper for its relief. This application was naturally followed by more irritation, and a week later she applied to my clinic at the Eye, Ear and Nose Hospital for relief. I found that the pepper had been removed, but there was considerable inflammation and a purulent discharge. She was given the usual treatment for the condition presented, and in the course of ten days was entirely well.

About a week later, to my great astonishment, I was summoned to court as a witness to testify to the character of the injury which the woman had received. I explained the conditions which presented themselves, and related that when I first saw the case, I had inquired of the patient in what manner she had removed the pepper, and that she had explained that she had made use of an old tooth-pick, by means of which she removed it, and that it had been very difficult as it had caused her a sharp and severe pain and had been followed by a discharge of blood. This explained the character of the lesion which I found in the ear, and the

perforation of the drum which was very different from that observed in the course of the ordinary purulent otitis media. In short, that the injury which had caused the woman the most pain and suffering, and the defective hearing was due, not to the pepper which had been applied, but to her rough and barbarous method of attempting the extraction.

On hearing my evidence, the Court discharged the case. It shows the necessity of making a careful examination in all such cases and not to depend too much on the evidence of the patient, especially where there is a possibility of a medico-legal complication.

Dr. J. W. Bullard (Pawnee City, Neb.).—Dr. Fryer's paper is a very importan one. It is a fact that corporations are very much imposed upon by people with imaginary or feigned injuries. Quite frequently people who have received some slight or imaginary injury consult me relative to the question of damages, I invariably endeavor to dissuade them, and I think this should be the attitude of every physician. In this way much can be done to protect corporations from unjust claims.

A CASE OF DOUBLE ACUTE RETROBULBAR NEURITIS, HEREDITARY IN ORIGIN.*

By HOWARD F. HANSELL, M.D.,

PHILADELPHIA, PENN.

THE affection of the optic nerves, characterized by the loss of central vision, usually rapid, without contraction of the peripheric field and unattended by pain, headache or other disturbance of the nervous system, and without other assignable cause than heredity, has been fully described by Leber, Habershon, Norris, Nettleship, Posey and others, under the title of medullary neuritis, axial neuritis, retrobulbar neuritis, and hereditary optic nerve atrophy. The designation "hereditary axial neuritis" would seem to be cor-

*Read before the American Ophthalmological Society, Washington, D.C., May, 1900.

rect since it calls attention to the principal features of the affection, namely, the origin in heredity and the site in the axial fibers. Moreover, it is essentially an inflammation followed by atrophy. It attacks several members of a family, notably the males, and has been traced through four generations. Families with neurotic tendencies, such as epilepsy and insanity, furnish, according to Leber, more cases than families in which no such tendencies exist.

CASE.—S. W., 56 years of age, was brought by Dr. Umstad, of Phœnixville, to the Jefferson Medical College Hospital, December 15, 1899. On the morning of the previous day he discovered, upon attempting to leave his bed, that he was nearly blind. He had retired in his usual health and sight and his rest had not been disturbed during the night. He could offer no explanation of the disaster that had overtaken him. He made no complaint of pain or headache preceding or accompanying the blindness, had received no injury, taken no medicine, had had no hæmorrhage and showed no sign of disturbance of the general health.

The ophthalmoscope revealed a low grade of optic neuritis with swelling not exceeding one diopter. The veins were tortuous and distended and the arteries slightly contracted. No patches of exudation in, or other abnormality of the retina or choroid could be found. The fields of vision were not contracted except at the center where each eye had a positive absolute scotoma. White and colors were not recognized in a small area—between 5 and 10 degrees—surrounding the fixation point. The pupils were moderately dilated but responsive to light and accommodation. V. R. and L. $^{10}/_{cc}$ excentric. There was no history of hereditary or acquired syphilis or nephritis. Mr. W. had for years smoked one or two cigars daily and drank very little or nothing. He had never previously complained of his eyes, except on one occasion, sixteen years before, after prolonged near use, he stated that he had lost in one night the power to read. As this difficulty was repaired by glasses, the loss of vision was probably physiologic.

The origin in heredity is based upon the following family history: Several of his aunts and uncles on his mother's side became nearly blind in adult life; father and mother pre-

served their vision until old age; his oldest brother, a physician, had sunstroke at 35 years of age, and in two years was almost blind, he is still living at about the age of 60 years, and has preserved a small amount of vision; another brother, a farmer, suddenly lost his sight, at the age of 50 years, while working in the field, and to-day is in the same condition as the elder brother. From the data at my command, supplied by the patient and the attending physician, I infer that all these members of the family had the same affection as my patient—acute double retrobulbar hereditary neuritis followed by atrophy.

Examination of the nose and throat by Dr. Walter A. Freeman showed healthy condition of the mucous membrane and of all the cavities except the left antrum, through which strong electric light could not be transmitted, indicating the presence of a tumor or a thickening of the osseous walls. Excepting the well-known relation betwen disease of the air cavities of the head to optic nerve affections there is no reason to believe that the antrum affection had, in this instance, any causative connection with the optic neuritis.

The etiology is obscure. The only plausible exciting cause was repeated exposure to cold during the six weeks preceding the attack, while the patient was superintending the erection and furnishing of a large building, and was compelled to remain for several hours each day in the unheated and damp structure.

There seems to be little doubt as to the correctness of the diagnosis. Hysterical amblyopia may properly be excluded, because of the patient's sex, history, age, equal pupils and ophthalmoscopic signs of neuritis. The symptoms bear little resemblance to those of tobacco and alcohol amblyopia, where we have gradual decline of vision, contracted pupils, central scotoma for colors only, very slight, or no changes in the papillæ until the stage of atrophy. Moreover, there is always, in such cases, a history consistent with the diagnosis. In my case the diagnostic features are the family history, the acute onset, the absolute central scotoma, the optic neuritis, that in a few weeks advanced to atrophy, the dilated pupils, the uselessness of mercurial inunctions carried to mild

ptyalism, of sweating induced by hot baths, and pilocarpin, or potassium iodid and strychnia.

Nettleship has contributed several able papers on the subject of retrobulbar neuritis, the most recent appearing in the *Royal London Ophthalmic Hospital Report*, May, 1899. He defines it as an inflammation originating in the optic nerve itself or communicated to it by some of the tissues between the front of the brain and the eye, and, excepting symmetrical toxic amblyopia, he classifies the affection into idiopathic and symptomatic. According to his description of these varieties, the case above described belongs to a third class, since it differs in several important particulars from Nettleship's cases. For example, both eyes were affected simultaneously in equal degree; while the onset might not have been sudden it was acute and without pain; instead of recovery vision had grown progressively worse; the patient is 56 years years of age, and therefore beyond the period of greatest sexual activity; he had no venereal disease and is not an excessive smoker. In only nine of Nettleship's cases was exposure to cold considered as a probable cause.

Leber (*Archiv. f. Ophthal.*, Vol. XVII, 1871) tabulated 40 cases of other writers and added 15 of his own, a total of 55 individuals from only 16 families. He believes that the pallor is the expression of atrophy of the optic nerve due to an increase of its connective tissue elements, even if the remains of an earlier inflammation are slight or doubtful.

Several papers have appeared since the publication of Leber's article, notably Fuchs (*Klin. Monatsb. f. Augenh.*, 1879); Higgins (*Medical Times and Gazette*, 1880; *Lancet*, 1881); Story (*Transactions Academy Med., Ireland*, 1884); Norris (*Transactions American Ophthalmological Society*, 1884); Kaersmaecker (*Rec. d'Ophtal.*, 1885), all of which are reviewed in Habershon's paper (*Transactions Ophthalmological Society of the United Kingdom*, 1888); the last author contributes several cases of his own and Nettleship. He mentions as possible causes of hereditary diseases of the nervous system—hereditary syphilis, sexual excess, excessive smoking, syphilis and exposure.

Posey (*Annals of Ophthalmology*, July, 1888) reports three cases, aged respectively 25, 41 and 61 years, that were

similar in many respects to the case recorded above, including the shape of his skull. Posey partially accepts Berger's theory in explanation that the disease is found principally in persons with the "tower-shaped skull," and is due to the encroachment of bone on the optic canal and sphenoidal fissures consequent upon the change in form of the sphenoid bone in advancing years.

The most recent contribution to the literature is a monograph of Vossius (*Sammlung Zwangloser Abhandlungen aus der Gebiete der Augenheilkunde*, Bd. III, Hft. 6, 1900), in which will be found a review of the cases hitherto reported and a consideration of the various theories of causation. Appended is a valuable list of references.

A CONVENIENT HEAD-REST FOR OPHTHALMOLOGICAL EXAMINATIONS.

By LUCIEN HOWE, M.D.,
BUFFALO N. Y.

MANY ophthalmologists have undoubtedly found it desirable to fix the head firmly when making certain examinations. Thus far I have been unable to find any arrangement for that purpose which was quite satisfactory. Accordingly, when making some studies recently in regard to relative accommodation and convergence, I drew the plan of a head-rest, which was then made by the Cataract Tool and Optical Company, and which has served the purpose so well as to warrant a short description.

Briefly stated, it consists of three parts:

1. The base. This has a three-sided opening below to fit over the table, with a screw beneath to hold it fast. The upright portion extending from this is a cylinder of cast-iron measuring about six inches high by an inch and a quarter to an inch and three-quarters in diameter.

2. The mouth and chin-rest. Within the upright portion of the base just described, there is fitted a brass rod seven or

eight inches long, and a set screw in the base holds the rod at any point desired. The upper extremity of this rod has an opening into which can be screwed one or other of two terminals. These are:

Head-rest for Ophthalmological Exaimnations.

A. The mouth-piece. This is in the form of an inverted stirrup; on one side of the stirrup there is a set screw which holds, as the foot plate of the stirrup, a small bar of wood, the latter being easily removed when replaced by another as desired.

B. The chin-rest. Another terminal to the upright bar is a horizontal plate made somewhat concave upward, to form a convenient hollow in which the chin may rest.

3. The oval about the face. Encircling the upright bar,

there is a collar of cast-iron which has a set screw enabling this collar with the attached oval to be fixed at any point on the rod, on which it slides. Extending upward from the collar there is an oval ring somewhat longer and wider than the face. Against the upper part of this oval ring the forehead rests when the instrument is used.

It should be noted that the set screws in both the base and the collar are so arranged as not to indent the rod when they are screwed firmly in place.

The manner of using the head-rest is apparent. The base is fixed to the table; the mouth-piece or the chin-rest, as the case may be, is brought to a convenient height and the rod made fast at that point; then the collar is pushed up or down on the rod until the upper portion of the oval is brought near the center of the forehead and the set screw in the collar is made fast to the rod. When the mouth-piece is used, the canine teeth rest firmly on the wood, and the forehead pressing against the oval, give three absolutely firm points of support for the skull. The purposes for which the head-rest can be used need only be mentioned here. For example: When measuring relative accommodation and convergence by means of the opto-dynamometer, to which I have already referred, it is necessary to keep the eyes always in the same position in the center of the arc through which the glasses or the prisms move, and that can be accomplished by means of this head-rest.

For using a certain form of the ophthalmometer, for photographing the exterior, and especially the interior, of the eye, for certain experiments in skiaskopy, etc., such a head-rest is convenient, or absolutely essential. For all of these purposes the mouth-piece is more convenient than the chin-rest. It is probable that such a head-rest is also useful for children with progressive myopia. We all appreciate the advantages to such persons of maintaining an erect position when reading, instead of allowing the eyes to become engorged as they do by constriction of the vessels of the neck.

If such a head-rest be fastened onto the desk of the pupil, it is impossible for him to bend the head forward. The very presence of such a hindrance is a constant reminder of the position he should avoid, until gradually the habit is formed

of sitting erect with the book on the desk, or, at least, as far removed as the degree of myopia will permit.

There are other uses for such a head-rest which need not be mentioned here, but considering the simplicity of this model and the various uses of such an appliance, it is worthy, perhaps, of this brief description.

THE MIDDLE TURBINATE BODY AS A FACTOR IN OCULAR DISTURBANCE AND THE INDICATIONS FOR ITS PARTIAL OR COMPLETE REMOVAL.*

By J. O. STILLSON, M.D.,

INDIANAPOLIS, IND.

TO ophthalmology is due much of the credit for recent advances made along the line of intra-nasal surgery. It is an open secret, testified to by the growing and indisputable experiences of us all, that lesions in the vault of the naso-pharyngeal cavity sometimes exist for years without the patient being aware of having "catarrh;" moreover, that such persons will frequently claim to be perfectly sound and healthy so far as nasal disease is supposed to exist, and not until some ocular affection, some migraine, some inveterate form of visual distress drives them to the oculist, do they have their attention called to the region in and about the frontal sinus, the ethmoid cells or the upper air cavities as the probable seat of lesions which play a factor in their sufferings. These subjective symptoms of distress are multifarious—among them we may mention certain forms of asthenopia, either with or without nausea, dizziness, some of the several muscular anomalies giving rise to inco-ordinations, notably of the extra-ocular muscles, or some disturbance in the vasomotor system of the orbit and ocular region, or some trophic degeneration of serious import, or it may be an

---

*Read at the Fifth Annual Meeting of the Western Ophthalmologic and Oto-Laryngologic Association, St. Louis, Mo., April 5-7, 1900.

inveterate spasm of the lids and orbicularis, together with spasm of accommodation not accountable for by the presence of a sufficiently high refractive anomaly to justify so much functional disturbance. With this orbicular spasm will be found conjunctival roughness, papillary elevation, follicular swelling, and even, sometimes, chronic hyperplasia and thickening of the subconjunctival connective tissue which will appear to persist long after the expiration of ample time for the complete recovery of the pre-existing chronic granular conjunctivitis which may have ushered in the complaint. In other instances it will be the ever-recurrent vernal hyperæsthetic, hyperæmic, photophobic relapse, increased, perhaps, by the grippal onset, which brings into bolder prominence the pre-existing underlying, masked and hidden lesion which, now with absolutely imperative demand, forces the practitioner's attention to the anterior portion of the nasal vault. Then, and sometimes not till then, the true state of affairs becomes manifest, and the final explanation of the numerous relapses, disappointments and failures is forthcoming.

Take for example, the numerous plans and methods of treatment of diseases of the lachrymal apparatus. What a sad history of failures and disappointments! What probings with large[1] and small[2] probes! What splittings up of the canaliculi and ducts[3] by inexperienced neophytes who had better been splitting rails! What attempts to destroy these structures by cauterization[4] including sac and nasal duct! What radical operations[5] involving extirpation of both duct and gland, and what numerous devices, all of but questionable avail, until the final recognition of the anatomical fact that this disease is a complication, due as much to nasal[6] as to ocular deformity, and that we have been overlooking the simple fact that the nasal duct makes its exit by a valve-like opening into the inferior nasal meatus, behind the inferior turbinate body, and that this valve is probably a wise provision of Nature placed here to prevent the ascent of secretions. and with such, bacterial and other contaminations into the ocular cul-de-sac from the nose. The disease of this canal above, in the part next to the eye, or the complete closure of the valve in the nose below, works, for that matter, as one and the same cause in preventing the drain-

age from the eye.[7] So that the cloaca must receive its proper attention when it is clogged from below as well as from above, if drainage is to be obtained.

What ophthalmic surgeon of repute and experience now attempts to treat lachrymal disease without due recognition and consideration being given to this point, viz., nasal complications? We might as well undertake to cure optic nerve lesions with setons in the back of the neck, or undertake to remove basilar gummata with mydriatics; or as one writer, whose name has escaped my memory, has put it, "as well undertake to cure goitre with gargles."[8]

The relation of the vault of the pharynx[9] to the conjunctivitis of spring time, and the presence of adenoids in the vast majority of cases of phlyctenular conjunctivitis of children, has long been recognized, and much intelligent and instructive literature on this subject is now extant. The success of the oculist who allows some plain physiological law to be overlooked or ignored, and goes on treating the ocular lesion without due reference to some cachexia,[10] can be but little better than that of the one who makes a proper diagnosis of the lachrymal and conjunctival disease while he ignores the possible presence of nasal stenosis and engorgement.[11] His treatment is as illogical as would be that of the rhinologist who relieves the hypertrophy of the turbinals and thereby the apparent cause of the stenosis, while he leaves unattended the adenoids which stud the pharyngeal vault, and keep up the discharge long after his patient would have been discharged as cured.[12]

There are a great many obscure and persistent lesions which affect the regions where the upper air sinuses make their exit, and the pathological changes here find their expression more often in some ocular distress and worry than in purely nasal symptoms. These subjective symptoms are neither constant nor are they typical; they are manifold and various; they are such as may and do often bear a certain associate relation to other diseases, both constitutional and general, both functional and organic.[13]

Cephalalgias and migraines are among the class of subjective symptoms, sometimes they are alone and sometimes they are accompanied with other subjective symptoms, such

as dizziness and nausea; this may be referred to the digestive tract; again the uterine or pelvic organs may be accused of their portion of the responsibility, justly so or otherwise; again the obstinate neuralgias[14] may be referred to the teeth and antrum, and these may be attacked, *ultro citroque*, only to find out afterwards that neither of these regions are responsible for the troubles and the unfortunate patients are referred to the oculist, partly with the hope that some eye-trouble may exist, and partly to be gotten rid of by the consultant, who has studied in vain to find some means of relief; the oculist in his turn finds some small or insignificant latent anomaly of refraction, which he corrects, and for a time all is well. (The new doctor is always the best doctor). Later, he in his turn is compelled to change his prescription. He thinks that a quarter of a diopter this way or that will change the result, or he may discover that the axis needs to be inclined over 5 or 15 degrees, or he may find that a small prism relieves the slight exophoria, which, by the way, he will have seen by this time has never been twice the same; or if he be of less experience, and afflicted with "*scabies operandi*," some functional, spasmodic, changable muscular deviation will be attacked with hook and scissors[15] only to bring on opposite deviation and more pernicious functional neuroses after the apparent tension of the supposed offending tendon has been overcome by some unwarranted and unavailing surgical procedure, based on a superficial and incomplete diagnosis.

Now, if we look carefully into the anatomy of this region, we will find that the extreme upper portion of the anterior nares presents to our study a field of intense interest to the oculist and to the rhinologist, and that some of the lesions here will oftentimes cause a series of complex symptoms which will interest not only these two specialties, but which will occupy to no small extent the attention of the neuro-pathologist as well.

This region is commonly known as the roof of the nasal cavity or the infundibulum.[16] In front it is bounded by the nasal bones, the lachrymal bones, and the anterior part of the cribriform plate of the ethmoid, in the middle by the body of the ethmoid, and behind by the sphenoid bone or

rather sphenoidal sinuses. Looking downwards, the field is bounded by the floor of the nose which is formed by the palate bones, the palatine processes of the superior maxillaries; the two sides are separated by the septum in the middle, which is formed above by the perpendicular plates of the ethmoid above and by the vomer below; the articulation of the perpendicular plate of the ethmoid with the vomer is maintained by the interposition anteriorly, of a triangular space, filled by a cartilaginous plate nown as the triangular cartilage or septum. This, after early childhood, is rarely seen to hang vertical.[17] In the vast majority of cases it deviates to one side or the other, so that the space between this partition and the other structures, which lie alongside of it, is subject to variations, which, while they in themselves may be small, yet exert great influence upon the structures referred to, and through them upon the comfort and well-being of the neighboring organs and general welfare of the patient.

The outer wall of each nasal vestibule is formed by the superior maxillary, lachrymal, palate, and sphenoid bones. This cavity is traversed by three scroll-shaped bodies, extending antero-posteriorly, called the inferior, middle, and superior turbinate bodies. These are composed of bone covered by a highly vascular extensive submucosa and mucosa, capable of extensive expansion and likewise contraction, according to atmospheric humidity, state of the patient, health, barometric and other conditions, which renders these bodies at all times subject to more or less engorgement, like erectile tissue. The inferior turbinate, the largest of the three, is attached to the outer wall of the nares, which is to the inner wall of the maxillary sinus, and anteriorly it blends with the nasal process of the superior maxillary above. The middle turbinate, on the other hand, instead of being wholly attached to the central wall, springs from the lateral mass of the ethmoid bone above the antrum and is connected by the long process of the ethmoid called the unciform process,[17] which articulates with the maxillary bone by means of a bony plate projecting from it to the antrum at its extreme upper part. Beneath the middle turbinate body, extending from near its anterior extremity downwards and backwards,

is a deep furrow—the hiatus semilunaris, the superior extremity of which presents a somewhat circular opening which leads to the orifice of the frontal sinus. This canal, however, does not extend straight upwards and backwards to the frontal sinus, but the lower end of this canal is further back in the nasal vault and runs upwards and downwards, so that it is quite difficult to pass a probe into the frontal sinus from the nose. Along down the outer side of this middle meatus is the ostium maxillare leading to the antrum of Highmore or maxillary sinus. Almost immediately above and seemingly at the summit may be seen at the septal side an expanded bulb-like prominence, varying in size from that of a small pea to a bean—the bulbus ethmoidalis, which is one of the expanded ethmoidal cells. The upper turbinate, the smallest of the three, springs from the lateral mass of the ethmoid. At its posterior portion it is free, but anteriorly it becomes blended with the middle turbinate. It will be seen that of the so-called three passages through the nose from in front backwards, the two lower ones at least are quite separate and distinct, and that they have each of them certain openings at their cæcal extremities, which are designed for separate and distinct purposes; the upper meatus, however, is more or less like an irregular stallactite-covered vault, owing to the corrugations and sulci between the ethmoidal cells. The lower meatus has a distinct opening, referred to before, namely, the canal, which comes down out of the nasal duct. This is not a straight vertical slit, but a more or less curved canal. The lower cloaca or exit, after the canal passes virtually through the bone, is somewhat membranous or has a covering of dense submucosa which serves as a valve. Hence, we can easily see how that engorgement and tumefaction of the lower turbinate body, by filling up its retro-involucrum, can close this valve and stop the downward flow of tears as effectually as the waters of the Tiber could dam back into the cloaca maxima of ancient Rome and prevent the escape of sewage. The middle meatus has, first the opening into the antrum of Highmore, the ostium maxillare, and the opening into the anterior ethmoidal cells—the ostia ethmoidalia, while in the superior meatus we have the openings into the posterisr ethmoidal cells and into the sphenoidal cells or

sinuses. Burnet says (*Loc. cit.*, page 565): "The anterior ethmoidal cells open into the middle meatus by means of small openings—the ostia ethmoidalia. The posterior ethmoidal cells open into the superior meatus. The ethmoidal cells sometimes extend to the sphenoidal cells posteriorly, and sometimes to the frontal cells (sinus, vid.). *They also occasionally communicate with the orbit.*" The last point, in the writer's judgment, is one not generally known, or if so, it is too frequently forgotten and becomes of vital importance in the consideration of this subject.

The principal nerves which supply this region are the nasal branches of the ophthalmic, the superior branch of the trigeminus, the second or superior maxillary branch of the same nerve, branches also from Meckel's ganglion, and the nerve of special sense. The nasal branch comes down through a slit beside the *crista galli* and is distributed to the front of the septum. It has a communicating branch which goes to tear-gland, and another which communicates with the ciliary ganglion. The superior nasal supplies the mucous membrane which covers the superior and middle turbinate bodies; it also sends branches to the ethmoidal cells, communicating with the ethmoidal nerves which in turn make their exit from the orbit as branches of the trigeminus.

It will be seen from the foregoing that any malposition of the middle turbinate body, or an undue displacement of the septum in this neighborhood will produce pressure-contact between the turbinate and septum and that will act unfavorably in two ways—first, by obstructing the free drainage from the upper air sinuses, notably the ethmoid and the frontal, and secondly, by the setting up of a train of nervous symptoms of the most distressing character, and that either of these conditions may be referred to the region in and about the eyes. These pains may be of an intermittent character in that they may at times be severe, while at other times they may be very much lessened or disappear. In some cases they may be more or less constant, growing more severe as time advances. The effects of climate and humidity of the atmosphere serve to ameliorate or aggravate these symptoms. When the air is dry, or when the patient resides in a high altitude, relief will be to a great extent constant;

when, however, the patient returns to a moist climate, or to the lower level, or in the changeable days of spring, these eye and head symptoms will return with aggravated severity. Pynchon[18] states that headaches, when constant and persistent, are due to pressure between parts that are bony or composed of more or less firm tissue; while in the case of transient pains the pressure is between soft tissues and on the subsidence of the engorgement the parts separate and pain will for the time disappear, to return again when the re-engorgement has returned to the extent sufficient to again cause pressure. He quotes from Harrison Allen,[19] who says: "Special stress must be laid upon the compression of the anterior end of the middle turbinate body. As one side is usually affected the headache is unilateral, being located on that side corresponding to the enlarged turbinal. Such headache is oftentimes diminished after the application of cocaine, while it is aggravated by probing. This form of headache increases after each attack of coryza and often seems to originate in and about the eye."

While the writer fully agrees with this author's two last statements, viz., that the pain is frequently observed to emanate from the eye and that it is relieved by cocaine, he has not found his experience to fully agree with the former statement, that when one-sided it is usually referred to the side corresponding to the enlarged turbinal. In many cases it has been found to be located in both eyes, or it may be referred to the opposite eye. This has been the case when some anomaly was found to exist, and in the cases of anisometropia or in cases where an insufficiency was found to exist in the extrinsic muscles, worse, of course, where there was diplopia present. Attended with spasm of accommodation, where the anomaly of refraction is low, the form of distress is best expressed by the French expression—"*Gène aux yeux.*"

Carter Symonds[20] speaks of "growths in the upper part of the infundibulum in the direction of the naso-frontal canal giving rise to supra-orbital pains, lachrymation, and disturbance of vision, spontaneous and on pressure."

Ayres[21] reports a case of acute glaucoma associated with a large nasal polypus of a solid mucoid nature which the patient stated had existed for years, never having given him

any trouble until the eye symptoms began and even then did not, as he supposed, bother him. Treatment failed to relieve the eyes. There was increased tension, phosphenes, decrease in the visual fields and in the visual acuity with evident interference with the circulation of the fluids of the eyeball at the iris-angle. The growth was removed when the tension of the eyeball began to decrease until it became normal, the vision began to improve, and recovery was finally complete.

In this instance there was undoubtedly some serious disturbance in the vasomotor system of the nerves supplying the orbit and globe; in turn, this gave rise to increased pressure brought on by the inhibition of the circulation in the globe and a sudden blocking up of the channels of exit at the iris-angle.

Gradle,[22] epitomizing the eye symptoms referable to nasal disease, speaks of "(1) An illy-defined disease suggesting glaucoma characterized by reduction of slight narrowing of the visual fields and disturbance of accommodation, together with increased tension; (2) Vascular disturbances of the lids with blepharitis; (3) some attacks of iritis; (4) Disease of the optic nerve which may become involved by extension of disease from the sphenoidal sinus; (5) Some of the peripheral forms of paralysis of the ocular muscles; (6) Functional derangements, such as itching, scratching, and burning, shooting pains, asthenopia, fugitive scotomata, blepharospasm, and pseudo-chorea of the orbicularis and the lids.

Technique.—In the limited time given for this paper it will hardly be possible to discuss the merits of different operations for the removal of the turbinates, either as a whole or in part. The choice of an operation usually depends upon the operator's own peculiar ideas quite as much as on any other factor. The instruments and methods with which he may be most familiar will determine, to a great extent, his skill and success. As in the operation for cataract, we may discuss iridectomy, at the time, or as a preliminary procedure, it will not have much bearing on the final result more than to meet the set ideas of the operator. A skillful operator will usually be most skillful if he takes his own way; so it is here. We must admit that the mere mention of turbinectomy itself is

enough to raise a storm of tirade, and justly so, because, no doubt this is an operation which has been greatly abused. In the hands of the beginner, or in fact of any but the most careful, conscientious and conservative operator, it will be productive of great harm. Hence, whether we resort to the biting forceps or the saw, the spoke above the cautery-snare or burr, becomes a mere matter of choice, which will depend upon circumstances at the time, over which the operator himself will decide. One thing, however, deserves mention; and this is of the greatest importance, namely, to be careful and protect the septum. It is quite easy, by a careless direction given to the cutting or boring instrument, to do serious damage to the septum unless the drill be guarded by a flange, as recommended by Dr. Pynchon[18] in his very able article on this subject; or, if the saw be the instrument selected, unless it be introduced on the flat between septum and turbinal and then turned outwards, so as to cut away from septum, much harm is liable to arise when the field is obscured by hæmorrhage and the restlessness of the patient; therefore, the proper use of hemostatics and local anæsthetics is of the greatest importance, and of remedies along these lines, respectively, none deserve better mention or greater praise than beta-eucaine, and the extract of suprarenal capsule.

REFERENCES.

1. Gould, Geo. M.: "Massage in Lachrymal Obstructions," American Journal of Ophthalmology, Vol. IX., p 187, 1892.

2. De Schweinitz: "Obstructions in Diseases of Lachrymal Passages and Intra-Nasal Disease," American Journal of Ophthalmology, Vol. IX., p. 177, 1892.

3. Theobald, S.: "Radical Cure of Lachrymal Stricture," International Congress of Ophthalmology, Edinburg, 1894. Ophthalmic Record, Vol. V., p. 241.

4. Froelich, Richard: "Treatment of Lachrymal Diseases," Klinische Monatsblaett., January 9, 1896.

5. Laffay: "Dacryo-Cystitis" (Injections Iodées), Annales d'Oculist., Vol. CXVI., p. 137.

6. Vulpius, Walter: "Stricture of the Lachrymal Duct," Deutsche medicinische Wochenschrift, February 13, 1897.

7. Foucher, A. A.: "Etiology of Dacryocystitis," Ophthalmic Record, Vol. VI., p. 562.

8.

9. Gradle, H.: "The Etiological Relation of Nasal Duct Diseases to Affections of the Eye," American Journal of Ophthalmology, Vol. IX., p. 210, 1892.

10. Risley: "Conservative Treatment of Lachrymal Obstruction," American Journal of Ophthalmology, Vol. IX., p. 214, 1992.

11. Holmes: "Removal of Tear-Gland and Nasal Duct," Monograph.

12. Couetoux: "Origine Nasal des affections oculaires," Annales d'Oculistique, April, 1897, T. CXVII.' p. 270.

13. Guibert: "Conjunctivitis Printenière, Traitement Rhino-pharyngien," Annales d'Oculistique, 1894, T. CXII., p. 436.

14. Coppez, Annales d'Oculistique, December, 1899, p. 449.

15. Abadie, Annales d'Oculistique, 1899, p. 94.

16. Burnett: "System of Diseaseases of Ear, Nose and Throat," Vol. I., p. 562, et sq.

17. Ibid., p. 563.

18. Pynchon: "The Offending Middle Turbinate," Laryngoscope, Vol. VII., p. 143.

19. Harrison, Allen, Medical News, March, 1896, p. 226.

20. Carter, Symonds: "Diagnostic Empyemia of Frontal Sinus," Laryngoscope, Vol. VII., p. 298.

21. Ayres, S. C.: "Acute Glaucoma Associated With Nasal Polypus," American Journal of Ophthalmologg, Vol. XIV., p. 108, 1897.

22. Gradle, H.: "The Etiological Relation of Nasal Duct Diseases to Affections of the Eye," American Journal of Ophthalmology, Vol. IX., p. 211, 1892.

PAMPHLETS RECEIVED.

"Some Points in the Symptomatology, Pathology, and Treatment of Diseases of the Sinuses Adjacent and Secondary to the Orbit," by Ch. S. Bull.

"Pneumonia Treated by Heat Over the Spine and Inhalations of Pure Oxygen," by B. O. Kinnear.

"The Tuberculin Test and the Need of a More Complete Diagnosis of Tuberculosis," by Ch. Denison.

ABSTRACTS FROM MEDICAL LITERATURE.

By W. A. SHOEMAKER, M.D.,

ST. LOUIS, MO.

THE STATE OF THE PUPILS IN PNEUMONIA.

Sighicelli (*Gazz. Med. Lomb.*, 1900) has made a study of the condition of the pupils in pneumonia. He finds that bilateral mydriasis is almost always present, and that it is frequently asymmetrical, the greater dilatation being on the side of the affected lung. He believes that this mydriasis is due to the pneumonic antitoxin. The greater mydriasis on the paralyzed side is due to reflex excitation of the superior cervical ganglion produced by inflammatory processes about the pulmonary branches of the vagus. Failure of this mydriasis is an unfavorable symptom, as it signifies an inadequate supply of pneumonic antitoxin. These pupillary symptoms may be an aid to diagnosis in cases where the pulmonary lesion is small and deep-seated and not readily detected by auscultation.

AN OPERATION FOR ATROPHIC ENTROPION, ESPECIALLY OF THE LOWER LID.

Arthur E. Ewing, in a paper read at the meeting of the American Ophthalmological Society, held in Washington, D. C., May 2 and 3, 1900, recommends the following operation: The conjunctiva is dissected back 3 to 4 millimeters from the margin of the lid, beginning near the openings of the Meibomian glands. This dissection is made the full length of the lid, from the outer canthus to the punctum. An incision is then made through the tarsal cartilage, also the full length of the lid, as in Green's operation. At the bottom of this incision, at the junction of the cartilage with the orbicularis muscle, three sutures are entered—one at the center, and one near either end of the incision. These sutures are brought out near the center of the raw surface of the divided

cartilage, carried over a roll of gauze or absorbent cotton (3 millimeters in diameter, placed on the skin surface just below the cilia, parallel to the tarsal margin) and tacked into the skin below the roll. When these sutures are tied the margin of the lid containing the cilia becomes strongly everted. With half a dozen or more fine stitches the conjunctival flap is brought forward also into the depth of the tarsal incision, the purpose being to cover with mucous membrane the raw surface of the posterior portion of the divided cartilage and the exposed orbicularis muscle. After two or three days the cotton or gauze-roll is removed, but the stitches in the cartilage are retained, and with them and the aid of such cilia as are available the eversion is maintained a week or ten days longer by means of contractile collodion.

TUBERCULOSIS OF THE EYE.

A. Pechin (*Progrès Medical*, Paris, March 31 and April 7, 1900) says the arguments in favor of enucleation as the treatment of supposed primary tuberculosis of the eye are refuted by the extreme rarity of this form of tuberculosis as a primary affection. The author recommends very conservative treatment. Even a "fungous" degeneration, with the cornea quite destroyed, has been known to heal spontaneously. Iridectomy in case of a solitary tubercle may save the sight, as in a few cases on record there was good retention of light perception. With disseminated tuberculosis of the iris there should be no intervention, as the traumatism might develop accidents; while there is always a possibility of spontaneous absorption.

FRONTAL HEADACHES, APPARENTLY OCULAR, BUT REALLY OF NASAL ORIGIN; THEIR RECOGNITION AND TREATMENT, PARTICULARLY THOSE DEPENDING UPON AN ABNORMAL RELATION OF THE UNCINATE PROCESS OF THE ETHMOID TO THE BULLA OF THE ETHMOID.

Arthur E. Ewing and Greenfield Sluder, in a paper read at the meeting of the American Ophthalmological Society, held in Washington, D. C., May 2 and 3, 1900, call attention to the following points: Many obscure headaches that seem to be ocular are really nasal. In these cases pressure upon the inner and upper inner wall of the orbit, particularly over

the region of the pulley of the superior oblique muscle, the orbital plate of the frontal bone, and the os planum of the ethmoid, reveals abormal tenderness. The trouble may be a neuralgia, or an empyema or mucocele of the accessory nasal cells—ethmoidal or frontal, or a closure of these cells: in the frontal, from a slight swelling of the membrane in the narrow infundibulum; in the ethmoidal, by the bulla jutting upward and backward tight under the ethmoid. In the last instance the accompanying dull headache, for which the oculist is consulted, is due to alteration in the air pressure. By ordinary inspection such cases may show no pathological changes in the nasal passages. Treatment consists in opening the air passages by shrinking the membrane through medication, or, when this can not be accomplished, by removal of the anterior portion of the middle turbinate, and if necessary, the uncinate process of the ethmoid.

CASE OF MULTIPLE MELANOSARCOMATA WITH PECULIAR COMPLICATIONS IN BOTH EYES.

A. Wagemann (*Deutsche medicinische Wochenschrift*, Leipzig, April 19, 1900) reports the case of a young man who had small pigmented tumors on the breast and face, and one developed in the left eye, but was afterward completely absorbed. Another developed later, leaving a layer of lumps of pigment over the cornea. The right eye also became affected with a metastatic process, resembling synchysis scintillans; only the glistening points in the latter were in this case the floating, brown dots of pigment, and the membrane a compact yellow mass.

QUININE AMBLYOPIA.

M. Coplan (*Journal American Medical Association*, May 26, 1900) reports the case of a boy, 3 years of age, suffering from malarial fever of the quotidian type, who was given, by mistake 30 grains of quinine in twenty-four hours, double the quantity that was ordered. On examination he was found to be totally blind. The quinine was stopped and $^1/_{200}$ gr. of strychnia given, t. i. d. His vision was restored at the end of five days.

CASE II.—Mrs. H., 30 years of age, suffering from a severe

attack of malarial fever which had resisted ordinary doses of quinine, was given 150 grains of quinine during the course of twenty-eight hours, thus reducing the temperature and prventing the usual paroxysm. Twenty-four hours later she was totally blind in both eyes, optic discs pale, and retinal blood-vessels small. Quinine was discontinued and strychnia sulphate and digitalis administered. The patient recovered her usual sight on the eighth day.

INSOMNIA DUE TO DISTURBANCES IN OCULAR REFRACTION.

A. Trousseau (*Paris Presse Medicale*, March 31, April 4 and 11, 1900) says ocular disturbances should be thought of when a young person is affected with insomnia at a period of excessive studying or other exertion, with headache on waking and better sleep after days of comparative rest of the eyes, as on Sundays.

The author relates a number of instances in which the patient had applied to physicians and neurologists in vain, and were finally promptly cured by having their errors of refraction accurately corrected.

UNPROGRESSIVE OPHTHALMOLOGY.

The Philadelphia Medical Journal of May 19, 1900, says: "The most exact and the most progressive of the special departments of medicine—such, by universal consent, was once the praise of ophthalmology. Is it so now? We fear not. It may be questioned if it is not the most unprogressive and inexact. It is hardly to be questioned that, taking American ophthalmologists as a whole, from 80 to 90 per cent. of their professional income is derived from what may be called refractive work, and yet not a single paper out of thirty-six on the last program of the leading American ophthalmological society referred to the subject. All related to inflammatory diseases, neoplasms, and operations. In these subjects there is, comparatively speaking, little of novelty or of scientific progress possible. But in refraction there are a thousand mysteries and unsolved problems, and in the relief of eye strain by refraction there are a multitude of connections with general pathology and path-

ogenesis, with resultant possibilities of beneficence beyond calculation. The worst of it is that by this indifference to the most valuable and most progressive part of ophthalmology there is given a pernicious encouragement to the impertinent and unscientific claims of the 'eyes-examined-free' opticians."

GUMMA OF THE IRIS AND CILIARY BODY—RECOVERY, WITH NORMAL VISION.

Charles A. Oliver (*American Journal of the Medical Sciences*, April, 1900) reports the case of a man, 37 years of age (a self-acknowledged syphilitic), who had lost the sight of one eye six years previously. The interesting points in the case are: That the blind eye probably suffered from a similar type of affection as that under consideration in the present instance; the recovery of the second eye, with normal vision, after three exacerbations; the endurance and positive value of large doses of mercury; the comfort obtained by the local use of heat, mydriatics and cyclopegics; the discharge of gummous material into the ocular media, and the rapid disappearance of the mass; the temporary change of refraction from compound hyperopic astigmatism to compound myopic astigmatism, and the appearance and retention of a very peculiar chorio-retinal disturbance.

QUININE INSTILLATIONS IN SUPPURATIVE AFFECTIONS OF THE CORNEA.

J. de J. Gonzales (*Anales de Ophtalmologie*) finds neutral quinine hyrochlorate in a 1 per cent. solution—10 drops three times daily, extremely effective in curing corneal ulcers and abscesses with purulent infiltration in the early stages, and hypopyon, if not very large. He explains its efficacy by its mild bactericidal action, combined with its paralyzing effect on leucocytes.

Quinine destroys invading germs, and, by paralyzing the leucocytes, prevents their further accumulation, which compromises the transparency and vitality of the tissues. It also relieves the pain promptly, although it induces a slight exacerbation at first.

MEDICAL SOCIETIES.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Thursday, March 8, 1900.

G. Anderson Critchett, M.A., F.R.C.S. Edin., President in the Chair.

Family Tendency to Ophthalmoplegia Externa.

Mr. W. M. Beaumont (Bath) read details of a series of 12 cases of ophthalmoplegia externa occurring in four generations of an otherwise healthy family. This was no doubt due to nuclear disease limited to a small area. It was never congenital, but came on in adult life, and slowly progressed until all the external ocular muscles were affected. Ptosis occurred in all, and was an early symptom, but there was never ophthalmoplegia interna. In the advanced cases there was great weakness of the orbicularis palpebrarum. There was no other paralysis, nor were there any of the special senses affected.

The first case—the ancestress of the family—died in extreme old age, her son died aged 90, while another died at the age of 85. One of the family had been shown to the Society by Mr. Lawford, and the case is recorded in Vol. VII of the *Transactions*. Photographs of most of the others were shown, and they all had ptosis. Mr. Beaumont thought that this was the first time that a family of twelve had been recorded suffering from this condition, and he regretted that time and space—time because the cases were spread over four generations, and space because they were spread over four quarters of the globe—prevented him from giving fuller details.

Meningitis Followed by Panophthalmitis.

Mr. A. Quarry Silcock, in a paper on this subject, said that the interest in this case lay chiefly in the fact that both eyes were affected by diffuse inflammatory change (panoph-

thalmitis) the result of general septicæmia, and in so early a stage of the latter as to constitute one of its most prominent signs.

The man, aged 35 years, was admitted to St. Mary's Hospital under the care of Dr. Cheadle on October 14, 1899. He was well and at work until October 4, when he was taken with shivering fits, pains in the chest, headache, cough with blood-stained sputum, and delirium at night. Since October 7, he has had persistent pain in the back of the neck. He answered questions intelligently, complained of headache and pain in the chest. Temperature 101°. There were no symptoms of cardiac lesion, nor any obvious lung change affording an explanation of the patient's condition. On the 15th, the day after admission, it was noticed that the right eye was inflamed (uveitis and hypopyon, chemosis of the conjunctiva). In the left eye the media were turbid, impeding a view of the fundus. The right eye was proptosed. On October 16, Mr. Silcock, after consultation with Dr. Cheadle, excised the eye, hoping its examination would throw some light on the nature of the infection. This was done by Mr. Plimmer, who found that the infection of the eye was due to the streptococcus lanceolatus. The man became rapidly worse, and died in a semicomatose condition on October 17. Post-mortem examination showed extensive basic meningitis and subarachnoid hæmorrhage in the lower dorsal and lumbar regions; recent vegetations on the aortic valves and embolic lesions in the lungs and spleen. The proptosis of the right eye was clearly due to œdema of the orbit. The examination of the eyes (the left was examined by Mr. Marshall) showed purulent panophthalmitis, but whether this condition was secondary to meningitis or was a part of the septicæmic condition was uncertain.

THE PRESIDENT remarked on the extreme rarity of the case, and said that he had never seen one in which both eyes had been affected.

MR. RICHARDSON CROSS, although he had never seen one in which both eyes had been affected, said he had had one case under his care in which one eye was lost during an attack of epidemic cerebro-spinal meningitis, and he read notes of this case.

Mr. Nettleship had never seen a case like Mr. Silcock's, but he had seen one similar to that described by Mr. Cross, the patient being a girl of about 10 years of age. He had also published a case in Vol. V of the Society's *Transactions*.

Mr. Treacher Collins had published a case of acute irido-cyclitis, followed by meningitis, and associated with ear disease.

Mr. Holmes Spicer mentioned a case of suppuration of both eyes, which was due to a septic uterine condition following abortion.

Pigmented Tumor of the Eyeball—Death from Multiple Pigmented Carcinoma Nearly 14 Years After Excision of the Eye.

Mr. Herbert Fisher and Dr. Charles R. Box related a case of primary pigmented tumor of the eyeball for which the eye was excised in 1885, the patient being a man at that time, aged 42 years.

Fourteen years later he was readmitted into St. Thomas' Hospital with great enlargement of the liver, accompanied by jaundice, abdominal pain, sickness of stomach and diarrhœa, and œdema of the lower extremities. For 15 months the abdominal swelling had been progressing, with general weakness and loss of flesh. The patient died, and the post-mortem examination showed that the liver was almost replaced by a nodular mass of melanotic growth, weighing 12 pounds 6 ounces. There were also a few pigmented growths in the left parietal pleura. A small pigmented growth the size of a pea sprang from the myocardium and projected into the right ventricle. Microscopic examination of the liver growths proved them to be melanotic carcinoma, and not sarcoma as had been expected.

The eye containing the growth had been preserved, and Mr. Treacher Collins had been able to obtain sections of it. He reported the growth to have originated in the ciliary processes, and to have extended thence into the iris and through the sclerotic. The cells were pigmented to a varying degree; they were small polygonal and of an epithelial type, and from their arrangement in rows, Mr. Collins gave it as his opinion that this growth was carcinomatous in

character. It was decided to submit the sections to a pathological committee of the Society for further examination and report.

MR. COLLINS supported his view as to the origin and nature of the primary growth.

MR. DEVEREUX MARSHALL, although expressing no opinion as to the nature of the primary growth, said he had never heard of a case in which a true cancer had remained dormant for fourteen years, though he had seen and published a case in which a patient had died of metastatic sarcoma 11 years and 5 months after an eye had been removed for sarcoma.

DR. BOX added some details of the case, and Mr. Fisher briefly replied.

GREEN VISION.

MR. H. WORK DODD said that some months ago he exhibited to the Society a patient who saw everything green, and since that time he had collected 13 published cases of this condition. In reviewing these he came to the conclusion that neither sex nor age had to be specially considered, and that errors of refraction and their effects might be excluded. The condition of the general health was noticeable in 7 of the cases; 2 suffered from migraine, 2 from syphilis, and 3 from chronic lead poisoning. Ten of the cases showed some departure from the normal in their ocular structures, such as wounds, detachments of retina, choroiditis, optic atrophy, neuro-retinitis, as well as tortuosity of the retinal vessels. With the exception of 2 cases following, one a wound and the other an operation for cataract, the abnormalities were connected with the optic nerve and retina. As to the reason why these people had green vision these cases gave but little information. It should, however, be noted that the macular region of the retina in 3 of the cases was the part affected and in 2 of the others the temporal side was indicated as being particularly disturbed. Looked at in the light of the knowledge of the conditions existing in tobacco amblyopia, possibly the same tissues were affected in the two conditions. Two of the cases in which green vision was noted only when the patients were indoors seemed to depend on the character or degree of the illumination.—*British Medical Journal.*